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Microsoft to pull the plug on XP in 2008

Microsoft will pull the plug on Windows XP next February. The company has announced that after 31st January 2008, PC vendors will no longer be able to ship new computers pre-loaded with Windows XP, and Microsoft will stop selling shrink-wrapped boxes of the operating system. The move will affect all versions of Windows XP, which includes Professional, Professional x64, Home, Media Center and Tablet PC.

The announcement follows the release of market research by Harris Interactive, which revealed that only 12 per cent of US respondents expressed any interest in moving to Windows Vista. Of the 2,223 people surveyed, 79 per cent were using XP on their home PCs.

A Microsoft spokesman denied that the company was phasing out Windows XP as part of a strategy to increase uptake of Vista. "There's no significant change

with XP compared with how we have done it with other operating systems," he said. He added that Microsoft is not yet dropping customer support for Windows XP, which will "continue for some considerable time".

Some PC vendors intend to phase out Windows XP before Microsoft's cut-off date. Dell has said that it "recognises the needs of small business customers and understands that more time is needed to transition to a new operating system. The plan is to continue offering Windows XP on select Dimension and Inspiron and systems until later this summer." (See page 181).

Microsoft has also warned Vista beta testers that their software will no longer work after 1st June 2007. Reverting to Windows XP requires a complete reinstallation of the operating system, and beta testers who want to upgrade to Vista get a discount only if they buy the most expensive Ultimate edition.

City of London WiFi launched

WiFi hotspot operator The Cloud has set up the "most advanced WiFi network in Europe" in the City of London. The network will enable the estimated 350,000 workers in the City's Square Mile to access the net with WiFi-enabled notebooks and PDAs, and make cheap phone calls using Voice over IP (VoIP). The City of London Corporation says it is available in around 95 per cent of the area covered by its jurisdiction.

According to The Cloud, the network is unique because "users keep their signal wherever they are". It relies on 127 WiFi base stations strategically placed across the City of London.

Access to the WiFi network and any other of The Cloud's WiFi hotspots across the UK costs £12 per month with a 12-month contract, or £4.50 per hour on an ad hoc basis. The Cloud says that it plans to expand the service into other areas of London, and is building similar networks in other UK cities.

IP telephony providers including Truphone, O2, Openzone, iPass and Skype are using the WiFi coverage to offer a service that they claim is just as good as traditional mobile phone services, but which costs considerably less.

"Truphone working on the Cloud City of London network means another milestone in the internet telephony revolution has been passed. It is now possible to make internet-rate calls on a very desirable mobile phone while walking through the streets of the world's foremost financial district," said Truphone's marketing director Carl Lyons.



▲ The Cloud's WiFi network in the City of London means that around 350,000 workers will have mobile internet access across the Square Mile

The UK: a 'nation of pirates'

More than one in 10 Windows PCs in the UK runs a pirated copy of Windows, while over a third of Microsoft Office users are also using rogue copies. Microsoft released the figures after monitoring the 36 million British PCs that use its service to keep their software up to date.

Microsoft's head of anti-piracy, Michala Alexander, told *Shopper* that there is a distinction between counterfeit products (which appear as originals and are often sold to unsuspecting customers) and software that is casually copied between friends, family members and colleagues. Currently Microsoft can only guess at how many casually copied versions of its main Windows and Office products are installed. The British Software Alliance (BSA) estimates that 27 per cent of all software in use in the UK is illegal.

Despite the large quantity of counterfeit software in circulation, the UK's piracy rate is thrashed by the rest of Europe. More than 40 per cent of the software in France and Germany is illegal, according to the BSA. China beats even these figures, though, with an estimated piracy rate of 61 per cent.

Microsoft claims that nearly a third of the illegal versions of its software found on the internet is infected with some form of malware, including spyware and other Trojans.



Microsoft targets students in the developing world

Microsoft says it will sell bundles of software for \$3 (around £1.50) to students in developing countries as part of an ambitious plan to double the number of people using Windows PCs around the world.

In the second half of this year, the company will start selling copies of the Microsoft Student Innovation Suite to governments in the developing world, which in turn will supply them to students in primary and secondary education. The suite includes Windows XP Starter Edition – a stripped-down version of Windows – Microsoft Office Home and Student 2007, Microsoft Math 3.0, Windows Live Mail Desktop and Learning Essentials 2.0 for Microsoft Office. The company says the software has been tailored to run on cheap, low-specification PCs designed for poorer countries.

The cheap educational software is part of Microsoft's recent Unlimited Potential initiative, which aims to increase access to technology so that by 2015 one billion people will benefit. The ultimate aim is to create five billion users.

"Microsoft is now over 30 years old, and the original dream was about computers for everyone," said Microsoft's chairman, Bill Gates. "As we go after this next five billion, it really is going back to the original roots, the original commitment of what Microsoft is all about.

"All human beings deserve a chance to achieve their full potential," he continued. "Bringing the

benefits of technology to the next five billion people will require new products that meet the needs of underserved communities; creative, new business approaches that make technology more relevant, accessible and affordable; and close collaboration between local governments, educational institutions and community organisations."

While Gates couched the initiative in philanthropic terms, it is also a response to projects such as Nicholas Negroponte's One Laptop Per Child programme, which threatens Windows' dominance through its use of open-source software. Microsoft also faces a challenge from Google, which has developed free online applications that compete with Office. They may not include all the complex features found in Office, but these are less likely to matter in emerging markets.

The advance of Linux in the developing world has already prompted Microsoft to launch Windows XP Starter Edition in 2004 as a cheaper, cut-down version of Windows aimed at poorer nations.

Microsoft is also keen to establish Windows as a standard in the fast-growing markets of tomorrow, as its core markets in the developed world have become saturated. Windows may be widely used in the developing world, but most copies are pirated. "This is not a philanthropic effort, this is a business," said Orlando Ayala, Microsoft's senior vice-president for the emerging segments market development group.

Mac Leopard runs into problems

Apple has admitted that the next version of Mac OS X 10.5, named Leopard, will not make the company's spring release date, and it has postponed the launch until October.

The delay is embarrassing for Apple, which made much capital over Microsoft's much-publicised delays to the release of Windows Vista. Apple had hoped to launch Leopard soon after Windows Vista went on sale in order to tempt Windows XP users who were worried about learning to use Vista and by its hardware requirements.

The company may now have lost that opportunity. Apple blamed the postponement on the fact that it has only limited human resources and that it had decided to focus on meeting its June release date for the iPhone rather than any Vista-style problems with its operating system.

"Life often presents trade-offs, and in this case we're sure we've made the right ones," the company said in a statement. Apple had already delayed the launch of its Apple TV set top box, which went on sale a month later.

Some analysts have suggested that Apple is spreading itself too thinly. HP, the world's largest tech company, has more than eight times as many staff as Apple, while its sales are just over four-and-a-half times higher than those of the Mac maker.

Apple sells its one hundred millionth iPod

Apple has announced the sale of the 100 millionth iPod, just five-and-a-half years after the product's launch in November 2001. Apple CEO Steve Jobs hailed the iPod as the "fastest-selling music player in history".

Sony's original Walkman cassette player is still the biggest-selling music player of all time, with estimated global sales of more than 350 million, but it took 13 years after its 1979 launch to reach the 100 million mark. The iPod has seen off all challengers so far, including Microsoft's Zune. According to market analysts it accounts for more than 70 per cent of the global market for music players.

The iPod's success has been attributed to various factors, including superb design, ease of use, inspired marketing and its close integration with iTunes. NPD analyst Steve Baker also points to Apple's astute strategy in not overloading its music player with features.

"The iPod is not the best-priced product. It's not the most feature-rich product. It's not the smallest or the coolest. But Apple consistently comes out with a product that meets the needs of what most people want," he said. But with sales of mobile phones dwarfing those of dedicated music players, handset manufacturer Nokia could make a case that its music-enabled phones reached sales of 100 million even more quickly than the iPod.

Although Apple has sold more than 100 million iPods, the number of people who have actually bought them is much lower. According to Yared Investment Research analyst Georges Yared, the number is as low as 40 million people, which he says leaves a huge untapped market for the iPod.

IN BRIEF

» ACER RECALLS SONY NOTEBOOK BATTERIES

Acer has announced a battery-replacement programme involving certain TravelMate and Aspire notebooks. The company describes it as a free "voluntary recall programme", with 27,000 computers believed to be affected. Acer says Sony "invited" it to initiate the programme.

For more details see www.acer.batterycall.com.

» NOKIA BACKS MOBILE WALLET PLAN

Nokia, the world's biggest mobile phone handset maker, is to team up with mobile telecoms companies to turn mobile phones into wallets, according to a wireless telecoms interest group. The global initiative will enable consumers to use their phone as a wallet or an access card simply by waving it over a wireless reader. Similar technology is used by Transport for London's Oyster Card system. In some cases users will punch a PIN into the phone.

» OXFORD TUBE PUTS WIFI ON COACH SERVICE

Passengers on the Oxford Tube coach service can now access the internet as they travel between Oxford and London. Net access comes through a combination of Moovera Networks' mobile WiFi equipment and Vodafone UK's 3G broadband network to deliver access speeds of up to 1.4Mbit/s on the Stagecoach-owned buses.

During a three-month trial across the 25-vehicle fleet, over 7,000 passengers used the free service more than 32,000 times, with an average session lasting 41 minutes.

» BLACKBERRY COMES TO WINDOWS MOBILE

Research In Motion (RIM) has announced that it will introduce software capable of turning a Windows Mobile smartphone into a 'virtual BlackBerry'. RIM says it plans to begin shipping the new application suite later this year for select devices based on Windows Mobile 6.

It will provide support for BlackBerry email, phone, calendar, address book, tasks, memos, browser, instant messaging and other applications. Devices running the software will be able to connect to BlackBerry services through both the BlackBerry Enterprise Server and the BlackBerry Internet Service.

IN BRIEF

» MACBOOK HACKED IN \$10,000 CONTEST

A MacBook has been hacked using a vulnerability in the Safari web browser as part of a 'Hack a Mac' contest. The vulnerability was exploited at the CanSecWest conference in Vancouver, Canada, by software engineer Shane Macaulay, who won a notebook for his efforts, and security researcher Dino Dai Zovi, who has discovered vulnerabilities in Apple's software in the past.

Dai Zovi developed the exploit outside the conference and sent it to Macaulay, who then applied it. He will now submit his work in an effort to claim the \$10,000 (around £5,000) bounty for successfully hacking an element of Apple's operating system.

» POLICE ARREST WIFI THIEVES

Worcestershire police have cautioned two people they arrested for accessing unsecured wireless networks in breach of the Communications Act 2003. Officers found the man sitting in a car with cardboard blocking the windows, and discovered that he was using a notebook to access a network in a nearby house. He was cautioned under Section 125 of the Act for dishonestly obtaining electronic communications services with intent to avoid payment.

» CHINESE DISSIDENT SUES YAHOO!

A Chinese couple is suing Yahoo! for allegedly providing information that helped the Chinese government prosecute one of them for his internet publishing activities.

Wang Xiaoning was sentenced to 10 years in prison last year for "incitement to subvert state power" after he emailed electronic journals advocating democratic reform and a multi-party system. The complaint, filed in the US, charged that the internet firms turned over details to prosecutors that helped identify him to authorities.

» IPHONE ON TARGET FOR JUNE

Apple's wireless partner, AT&T, has confirmed that the iPhone is on schedule to ship in June. AT&T's wireless unit has an exclusive US deal to sell the highly anticipated new handset. The UK release date is rumoured to be just before Christmas.

High-profile bloggers call for online code of conduct

A high-profile blogger has been so badly frightened by online threats that she failed to attend a technical conference in San Diego. Obscene comments and anonymous death threats posted on the blog of prominent US games programmer Kathy Sierra, and on several other blogs, have prompted calls by some high-profile bloggers for a voluntary code of conduct. Some have greeted the proposal as a welcome move towards self-policed civility, while others have condemned it as an attack on free speech.

Last month Sierra explained her non-appearance at the conference on her blog. "As I type this, I am supposed to be in San Diego, delivering a workshop at the ETech conference. But I'm not. I'm at home with the doors locked, terrified. For the last four weeks, I've been getting death threat comments on this blog.

"I have cancelled all speaking engagements. I am afraid to leave my yard. I will never feel the same. I will never be the same," she wrote. Sierra's posting sparked a passionate debate about free speech on the internet, and whether the abuse of the type Sierra has endured might lead to government regulation, which could subsequently be misused to suppress opinion.

Technical author and publisher Tim O'Reilly and Wikipedia founder Jimmy Wales, both blog writers, proposed a voluntary Blogger Code of Conduct. Wales himself is no stranger to online attacks.

The rules they have suggested include the outlawing of anonymous comments. They also support the deletion of comments that are libellous, infringe

copyright, violate confidentiality or privacy, or are knowingly false. Also forbidden are comments "used to abuse, harass, stalk or threaten others".

Other suggested rules include "we won't say anything online that we wouldn't say in person" and "we connect privately before we respond publicly".

Sites that adhere to the code can display a 'Civility Enforced' logo, while those that decline to monitor their content should post an 'Anything Goes' logo, along with a warning that "crude language, insults and other 'off colour' comments may be encountered".

However, some bloggers warned that the code could lead to curbs on free speech. "How are we free if we can't say what we want to say? How is it a free society that suppresses some speech but allows other? Who decides what is terroristic [or] threatening and what is blowing off steam? Is there a clear definition? Can they bend the line to allow some people to get away with stuff and others to go down for nothing?" wrote aukxsona on a Digg forum entitled "Death Threats against bloggers are not 'protected speech.'"

Robert Scoble is another high-profile blogger. Although he has made a very public show of support for Sierra, he is also uneasy about the code of conduct. "I do find disquieting the social pressure to get on board with this programme," he wrote on his widely read Scobleizer blog. "Tim O'Reilly is a guy who really can affect one's career online (and off, too). I do have to admit that I feel some pressure just to get on board here and that makes me feel very uneasy."

Google prepares web presentations

Google has confirmed that it will add a presentation graphics application to its web-based suite of productivity tools this summer. The current suite includes a basic spreadsheet and word processor.

"We'll soon be welcoming a new addition to the Google Docs & Spreadsheets family: presentations," wrote Sam Schillace, Google's engineering director on the Official Google Blog.

Google is basing its presentation application on technology it acquired when it bought Tonic Systems, a developer specialising in "presentation creation and document conversion" software. As yet it has not confirmed an official product name, referring only to "presentations" on the blog.

Google's CEO Eric Schmidt denied that the company's latest product announcement was a sure sign that the company was coming after Microsoft. "We don't think it's a competitor to Microsoft Office. The reason is it doesn't have all the functionality, nor is it intended to have all the functionality, of Microsoft Office," he said.

"It's casual and sharing, and a better fit to how people use the web. My guess is that many companies in the audience are building products like this or other variants of this using the emerging architecture," he added.

Schillace characterised the decision to create an online equivalent of Microsoft PowerPoint as a logical addition for a product suite that is based on making collaboration as easy as possible. "We've already freed those of you working in teams from the burdens of version control and email attachment overload when going back and forth on word processing and spreadsheets. It just made sense to add presentations to the mix; after all, when you create slides, you're almost always going to share them.

"Now students, writers, teachers, organisers and just about everyone who uses a computer can look forward to having real-time, web-based collaboration across even more common business document formats," he wrote.

Microsoft to go DRM-free

Microsoft has announced that it will remove digital rights management (DRM) protection from music sold on its Zune Marketplace online store. This decision follows moves from Apple and EMI to offer DRM-free downloads on iTunes. Microsoft has not yet specified any dates or pricing.

This is a change of heart for the Seattle-based company. In February, its head of marketing for Zune, Jason Reindorp, condemned Apple CEO Steve Jobs' anti-DRM pronouncements as "irresponsible, or at the very least, naïve". However, Reindorp quickly changed his tune after Apple and EMI made their announcements. "We've been saying for a while that we are aware that consumers want to have unprotected content," he told *The Times*.

Ironically, Apple's decision to embrace DRM-free content could give Microsoft a better chance of competing with the iPod, as iTunes downloads will play back on the Zune.

"This does open things up a little bit," said Reindorp. "It potentially makes the competition more of a device-to-device or service-to-service basis, and will force the various services to really innovate."

Here is the MySpace news

MySpace is expanding into news. The popular social-networking site has launched a beta service called MySpace News, which is a cross between news aggregation services such as Google News and sites such as Digg, where users rate stories found on blogs, websites and traditional news outlets.

MySpace News uses software to place news stories automatically into one of 25 broad categories, and into hundreds of sub-categories within those. The story rankings are determined by user feedback. MySpace users can also share stories and add comments.

MySpace hopes that ranking news stories and commenting on them will keep its estimated 100 million users engaged for longer periods, during which time the

company can target them with online adverts.

"We're putting it to the community to be the editorial engine driving our news service," explained MySpace cofounder Tom Anderson.

Google News has been attacked by some publishers – notably several Belgian newspapers – on the grounds that the search giant makes money selling adverts next to content it has not paid for.

MySpace's owner, Fox Interactive Media, is an arm of publishing magnate Rupert Murdoch's company, News International. Fox claims that the news coverage will also drive users to visit the sites of newspapers that created the

original stories. These sites will include those owned by Murdoch.

Fox Interactive Media is determined to find a way to make money out of MySpace, which cost it nearly \$600 million (around £300m). The site looks destined to add features to become more like the Google, MSN and Yahoo! sites, while trying to avoid alienating users who just want to network and promote their bands.

"MySpace must take its phenomenal audience usage – which is essentially based on modern personal pages with very loose social networking communications connections – and actually make a media business out of it. MySpace may be on its way to portal-hood," said industry analyst David Card.

Work computers are packed with porn

More than a quarter of workplace PCs store pornographic images or other offensive content, and some of those files are illegal. That's the surprising finding of US security outfit PixAlert, which examined more than 10,000 PCs used in corporations and government offices.

According to PixAlert, employees routinely download inappropriate images from the internet to their work computers. PixAlert found that 25.8 per cent of computers harboured such content. The company said it had also found pornographic content on 12.4 per cent of the 12,000 email accounts it looked at. Around half the images included nudity or sexual acts, and 0.3 per cent of the images were illegal.

"Inappropriate images in the workplace are more than just a nuisance; their presence on corporate computers and dissemination through a network can have severe consequences for an organisation, including exposure to criminal and civil litigation, brand damage, financial loss and breach of corporate policies," said PixAlert.

"While all organisations actively discourage access to inappropriate images at work, our audits show that the reality is that all establishments have a lot of digital pornography residing on their networks that they don't know about," said PixAlert's Andy Churley.

Dell promises to stick with Windows XP

Following pressure from customers, PC manufacturer Dell has decided to make Windows XP available on new PCs. The company had previously chosen to offer Windows XP on only two lines in its large range of personal computers. Now buyers can opt to stick with the older operating system when picking from six models.

The PCs that offer Windows XP Home and Professional Editions as options include the Inspiron 1405, 1501, 1505 and 1705 notebooks. The Dimension E520 and E521 desktops are also available with XP. Dell had a change of heart over phasing out XP in favour of Vista after more than 10,000 visitors to its website voted to keep XP as an option. "We heard you loud and clear on bringing the Windows XP option back to our Dell consumer PC offerings," the company said in response.

Although the main objections to Windows Vista involve driver support, hardware requirements and software compatibility, Microsoft claims that Dell's move was a response to the specific requirements of a small minority.

"The vast majority of consumers want the latest and greatest technology, and that includes Windows Vista," said Michael Burk, a product manager for Microsoft's Windows Client group.

HP slashes ink cartridge costs

Leading printer manufacturer HP has announced that it will provide a wider range of ink cartridges including discounted, higher-volume models. HP Standard Print Cartridges will be available for less than £10 while the HP Value Print Cartridges provide more ink (for up to five times as many prints as the Standard cartridge) and savings of up to 55 per cent.

The new range also includes photo printing cartridges that offer the "best value and results for more specialised printing". The cartridges are packaged with colour codes to make choosing the right one simple for the customer. Instead of picking

an Original cartridge, you can choose an alternative depending on your personal requirements.



This is good news for HP customers who object to traditionally high ink prices but prefer not to turn to third-party ink suppliers. HP claims that its new range and pricing will not mean an increase in the prices of its printers.

◀ HP's standard cartridges will be available for under £10

IN BRIEF

GOODBYE SAVASTORE, HELLO SAVERSTORE

Electronics retailer Savastore.com has risen from the ashes, in the subtly disguised form of Saverstore.com.

Savastore ceased trading in February after its parent company, Watford Electronics, was bought out by Globally Ltd, a company that trades from the same address as Watford and is run by Mahmood Jessa, a former logistics manager at Watford.

Now the Savastore.com domain is redirecting visitors to Saverstore.com. The new site's Company Information section states: "After a full review of business and technical processes, the site has been reopened under the new name, Saverstore.com. Customers can still use their log-ins from the former site."

It is still unclear what will happen to customers with outstanding orders from the former site.

FOR THE GEEK WHO HAS EVERYTHING

A company that specialises in luxury customisation of mobile phones has started selling gold-plated iPods. Amosu will plate the metal back of a Video or Nano iPod with 24-carat 'hardened mirror' gold – for a price.

An 80GB iPod, which usually costs £239, will set you back £399; a gold-plated 8GB iPod Nano will cost £299 compared with just £169 for the more plebeian player.

For more information, go to <http://amosu.myshopify.com>.

HAPPY 25th BIRTHDAY TO THE ZX SPECTRUM

The machine that whetted appetites for personal computers and got many developers developing – the Sinclair ZX Spectrum – celebrated its 25th anniversary in April. Even today, many gamers still spend hours playing such games as Chuckie Egg, Jet Set Willy and Manic Miner on their old machines or using emulators.

Way back in 1982, users could get their hands on a computer with 16KB of RAM for £125 or 48KB for an extra £50. Sinclair subsequently reduced the prices to £99 and £129 respectively. The Spectrum entered the market previously dominated by the BBC Micro.

IN BRIEF

» DELL ADDS FLASH DRIVE OPTION FOR ULTRA-PORTABLES

Dell has started offering a flash memory solid-state drive (SSD) as an alternative to a hard disk drive (HDD) in two of its ultra-portable notebook models. They will be available with the Latitude D420 ultra-mobile and D620 ATG semi-rugged notebooks.

Unlike a traditional HDD, which uses spinning discs and read/write heads, an SSD uses flash memory and has no moving parts. As a result, it is more reliable and silent.

» INTEL PREDICTS DEATH OF DRAM

Intel has unveiled the 'next generation of flash memory', which could replace all types of memory in PCs. Although devices based on the new phase-change memory are not yet in production, Intel's chief technology officer, Justin Rattner, showed a complete production-quality wafer during his opening keynote speech at the recent Intel Developer Forum.

Modules that have the new memory will have a lifetime of over a million write cycles, an order of magnitude more than current NAND-based flash memory, which degrades after a few tens of thousands of writes. It will retain its data for at least 10 years with no power applied and, like normal RAM, it is writable at the single-bit level, unlike conventional flash, which has to be erased and written in blocks.

» TWO NEW NET SPEED RECORDS

The University of Tokyo has broken two of the Internet2 Land Speed Records and has now set or broken 10 records for the highest bandwidth, end-to-end networks. It set the first record over a next-generation IPv6 network path that was over 30,000km long and crossed six international networks, which is equivalent to over three-quarters of the circumference of the Earth. The team successfully transferred data at a rate of 7.67Gbit/s.

The team used standard TCP network technologies to achieve the new mark. The following day it used a modified version of TCP to achieve an even greater record. Using the same 30,000km path, the network was able to achieve a throughput of 9.08Gbit/s for both the IPv6 multi- and single-stream categories.

Remote-controlled teeth to deliver medicine

An EU-funded research project is working on building artificial teeth that administer drugs to patients automatically and unobtrusively. The 'smart' oral drug delivery device is intended to help patients with long-term illnesses and drug addiction problems.

Although it looks exactly like a regular tooth, the refillable device contains medicine and a control system that manages the release of chemicals into the body. The remote control enables the delivery to be managed closely, and also indicates when the medicine supply is running low.

Intellidrug claims that its medical molars "could replace injections, which cause pain and other infections. Moreover, the blood level of pharmaceuticals is better controlled than in a traditional way, which may reduce many side effects." Additionally, sufferers of debilitating mental conditions such as Alzheimer's disease could benefit from receiving treatments for



medical problems automatically, as they won't need to remember to take tablets.

The device is expected to be available for sale later this year. Patients who have a full and perfect collection of gnashers can wear it as an attachment rather than having a tooth pulled out.

Optical chips promise instant downloads

You may soon be able to order a two-hour high-definition movie over the internet and download it in a few seconds thanks to a prototype chip created by IBM.

IBM scientists have produced a prototype optical transceiver chipset that has the potential to revolutionise the internet by supporting data transfer speeds of up to 160 gigabits per second (Gbit/s). Today's DSL and cable modems typically transfer data at several megabits per second – on a good day.

An optical transceiver chipset converts the electronic data processed in a computer into pulses of light, which can travel down fibre-optic cables. IBM says its new chipset supports data transfer speeds up to eight times faster than those of the optical transceivers generally in use.

"The ability to move information at blazing speeds of 160 gigabits – or 160 billion bits of information in a single second – provides a glimpse of a new era of high-speed connectivity that will transform communications, computing and entertainment," said IBM in a statement.

"Optical networking offers the potential to improve data transfer rates by speeding the flow of data using light pulses, instead of sending electrons over wires."

The chipset was designed to be included on circuit boards inside PCs and TV set-top boxes. "IBM researchers built an optical transceiver with driver and receiver integrated circuits in current CMOS technology, the same standard high-volume, low-cost technology used for most chips today," said the statement.

"They then coupled it with other necessary optical components made in more exotic materials, such as indium phosphide (InP) and gallium arsenide (GaAs), into one integrated package only 3.25x5.25 millimeters in size."

To fulfill its potential, IBM's technology would require the replacement of today's copper-based connections to the home with fibre-optic cable. Until recently, few countries had embraced fibre-optics due to the high expense involved.

However, the steep rise in the price of copper and the growing need to replace ageing telecoms infrastructures, has led some analysts to predict the widespread implementation of fibre networks. IBM did not say when it would bring its technology to market.

Satellite routers put the web into space

Future internet data could be routed around the world through networks of satellites as well as along cables buried under the sea. The World Wide Web could become the Space Wide Web, if a 2009 mission to place a Cisco router into orbit is successful. The US Department of Defense's Internet Router In Space (IRIS) programme is designed to aid communications for the country's armed forces, by basing them on the same protocol that underpins the internet.

Voice, video and computer data has been transmitted between satellites and earth stations since the 1970s, but the enormous distances involved in bouncing signals back and forth between Earth and the satellites creates delays and data bottlenecks. However, when more than one router has been placed in orbit, they can communicate with each other in space, beaming data only to Earth receivers that are close to the data's ultimate destination.

"You save on delays and capacity by not having to go back to the ground [with the data signal]," said Lloyd Wood, space initiatives manager at Cisco. "And once you have smarter satellites, you can treat them as... part of your IP network and manage them as you do your IP networking assets on the ground. They become fully integrated with your terrestrial network, enabling you to take advantage of existing management tools and also decrease the number of ground stations."

Although the first space routers will be dedicated to military projects, the technology will inevitably spread to civilian markets. The internet itself grew out of the US military's Arpanet project, a network that was designed to withstand nuclear attacks.

"IRIS is to the future of satellite-based communications what Arpanet was to the creation of the internet in the 1960s," said Don Brown of Intelsat, which is building the IRIS satellite.